

# How can a national audit help to improve the quality of prostate cancer services? A surgeon's perspective

**Mr Paul Cathcart**  
**Consultant Urological Surgeon**  
**Guy's & St Thomas' Hospital**



**12<sup>th</sup> Belgian Multidisciplinary**





Thank you Wouter

Fantastic time in  
theatre

Brilliant time at the  
Cantus yesterday

# NPCA – National Prostate Cancer Audit

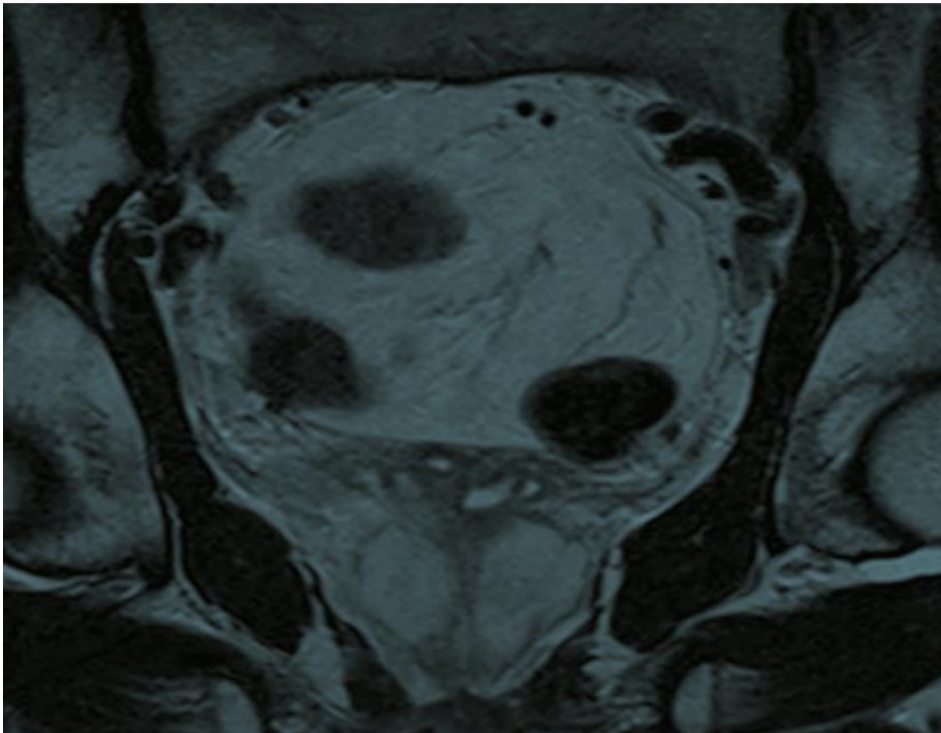
**NPCA**  
National Prostate Cancer Audit



## NPCA State of the Nation Report

An audit of the care received by people with prostate cancer in England and Wales from 01/01/2019 to 31/01/2023

Published January 2024



- How do I as an individual surgeon and as a specialist centre “use” the NPCA and its results?
- i.e. What is its clinical use?

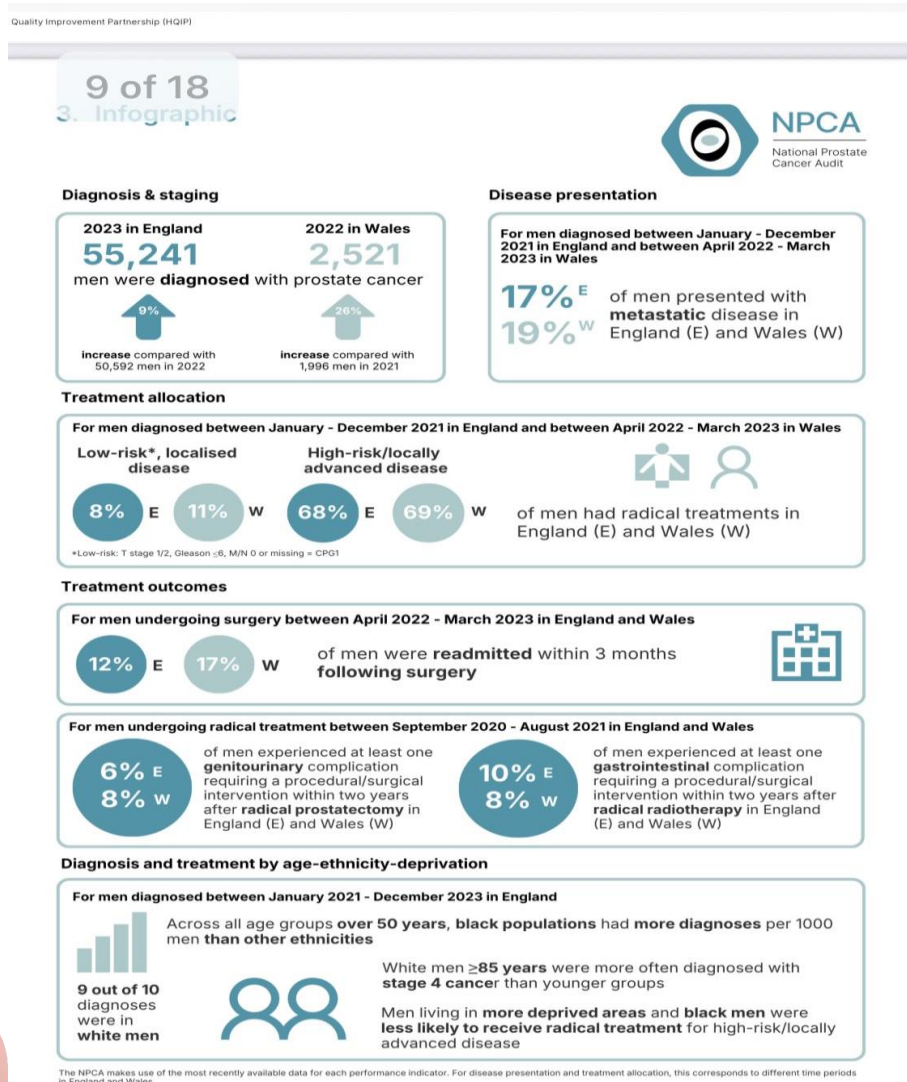


# What do I learn as a clinician from the NPCA

- Information about prostate cancer (epidemiology/access to care/determinants of access to treatment and determinants of outcome) on a national level
- Information on my personal centres outcomes of prostate cancer therapies “benchmarked” against my peers
- Information about national utilisation of different prostate cancer therapies (for example after new guideline advice) together with outcomes of different prostate cancer treatments

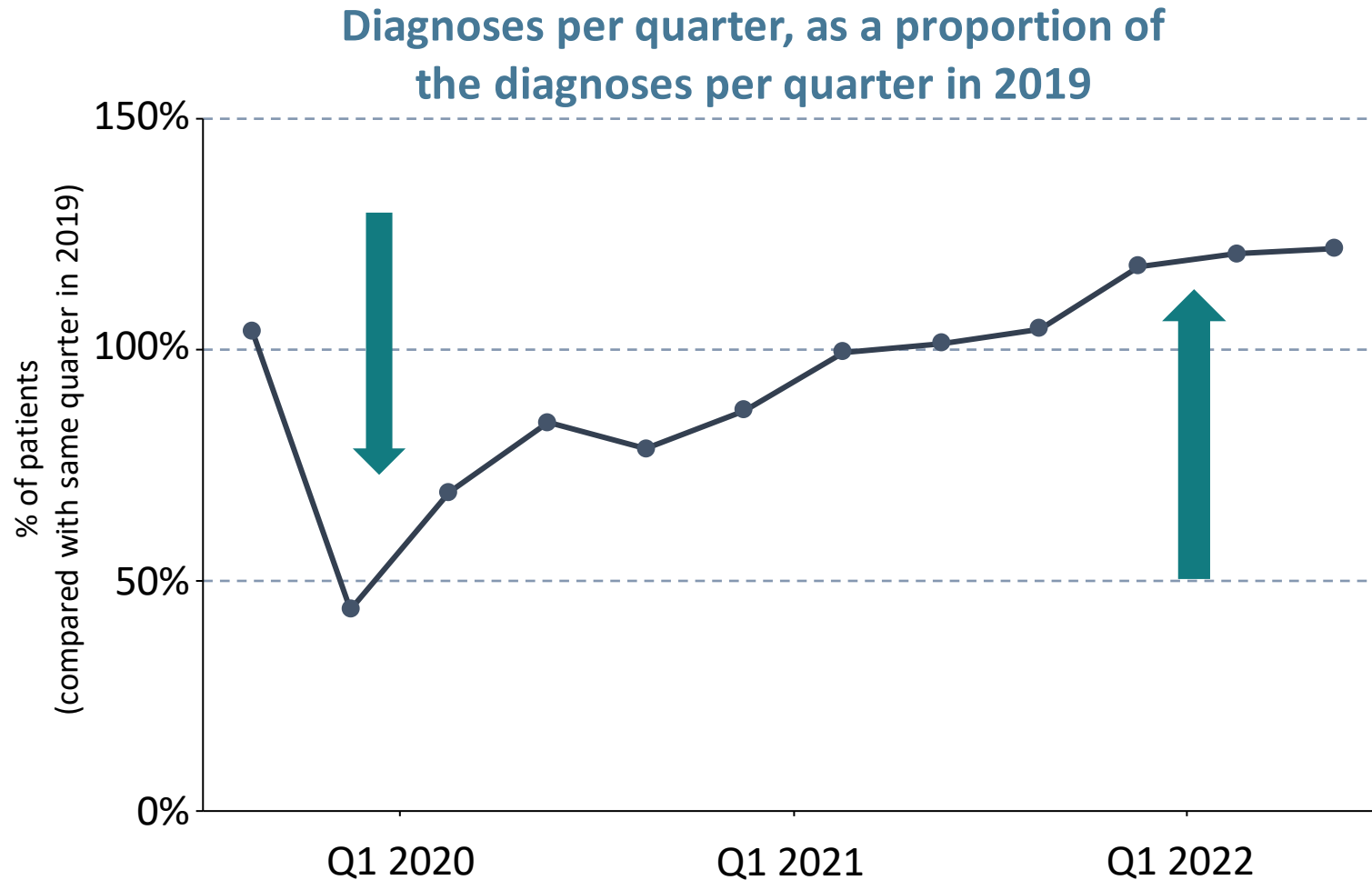


# Epidemiology of prostate cancer



- Number of men with prostate cancer in England are rising (9% increase over last 12 months)
- 17% of men present with metastatic disease in England
- Across all age groups over 50, black populations had more diagnoses per 1000 men than other ethnicities

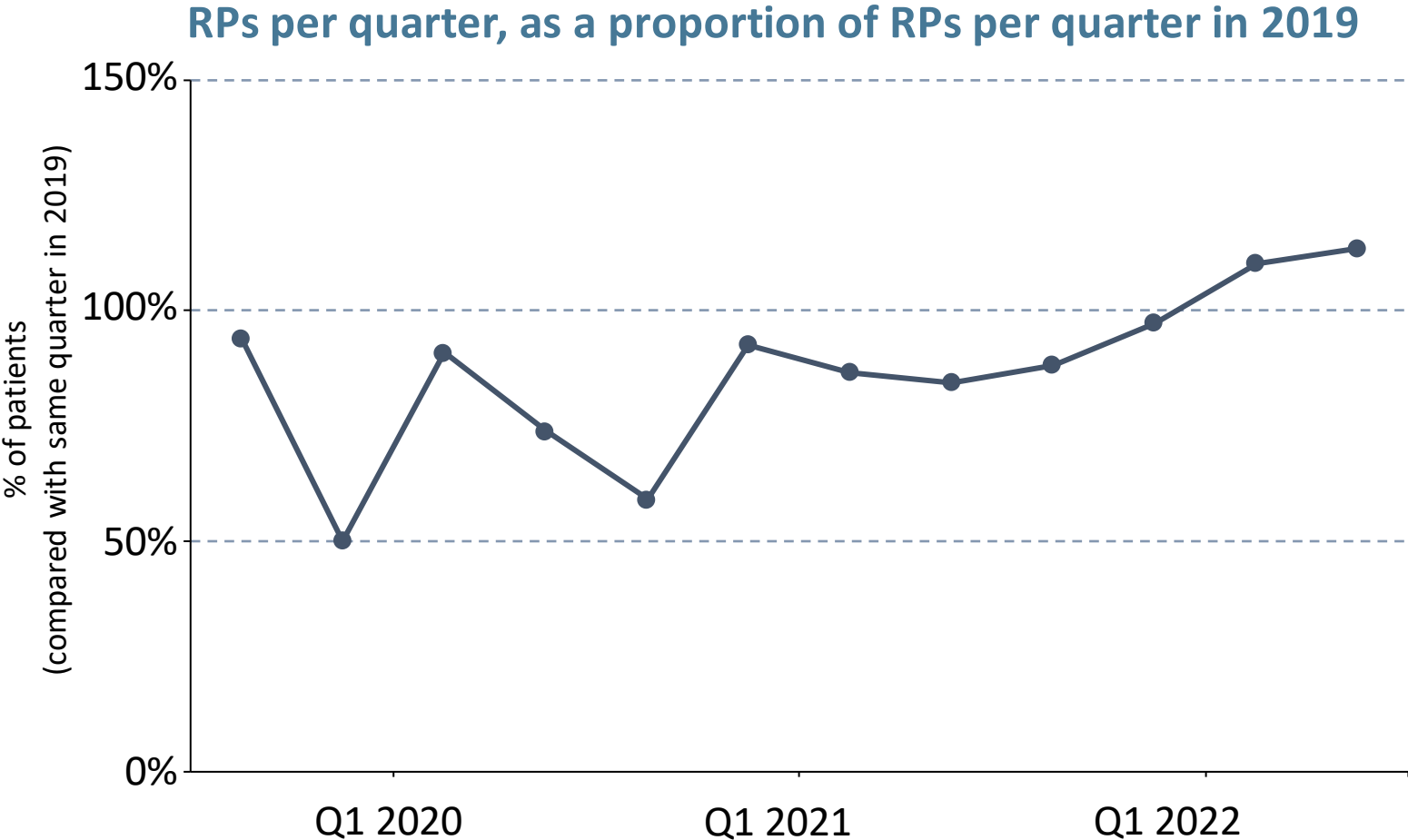
# Epidemiology of prostate cancer - numbers



**10,000  
additional  
patients in 2022**

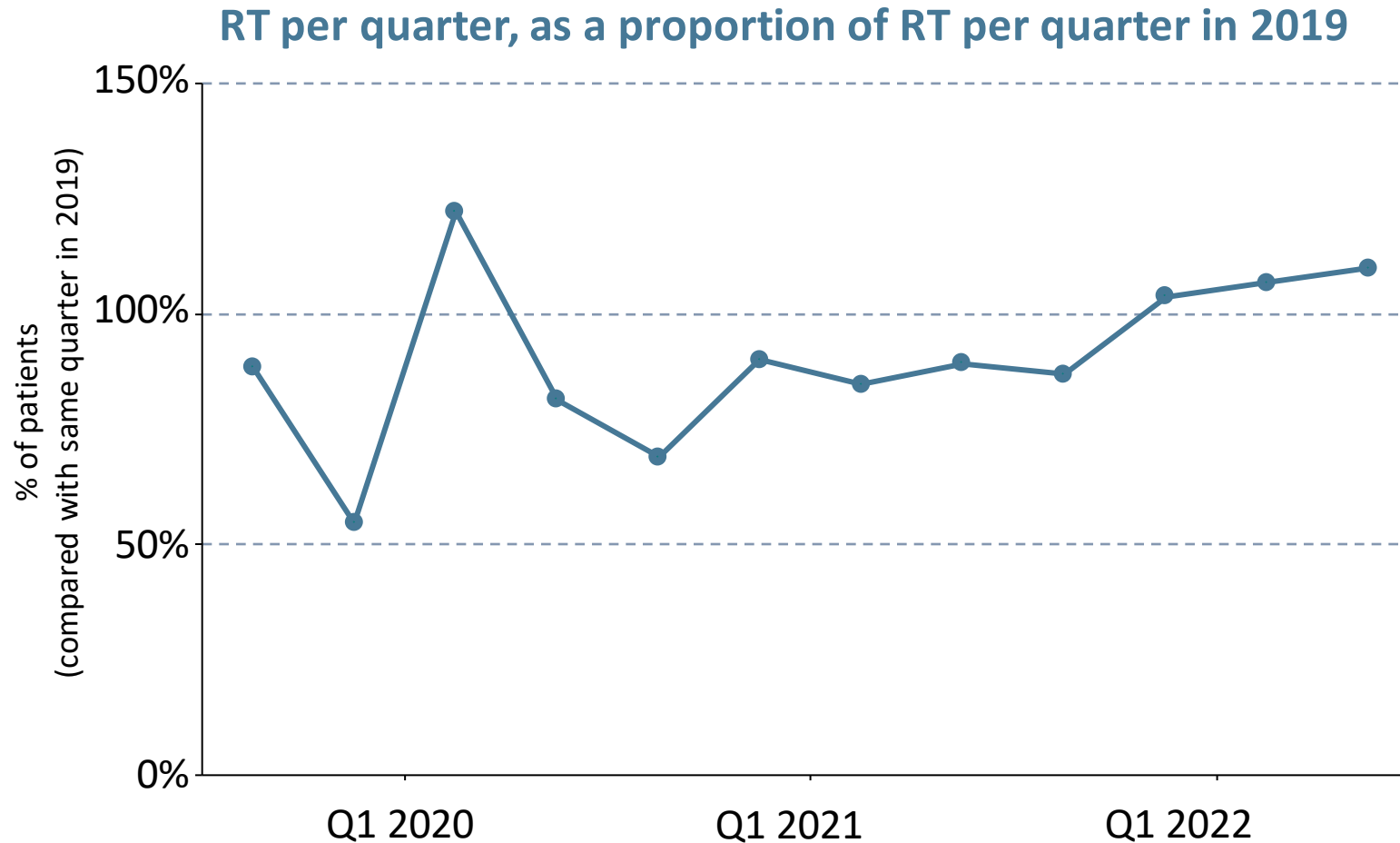
**New prostate cancer diagnoses in England: 2020–2022**

# Epidemiology of prostate cancer - numbers



## Radical prostatectomies in England: 2020–2022

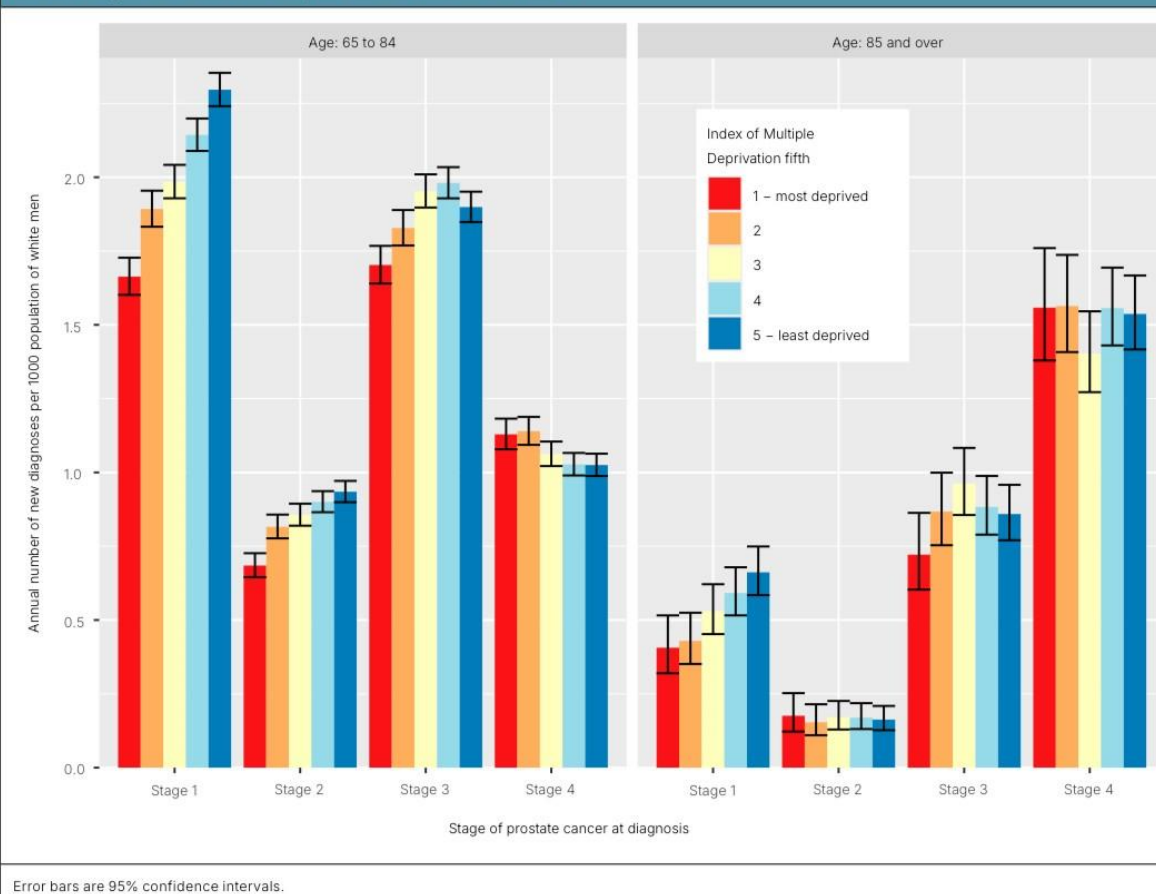
# Epidemiology of prostate cancer - numbers



**Patients receiving radiotherapy in England: 2020–2022**

# Epidemiology of prostate cancer

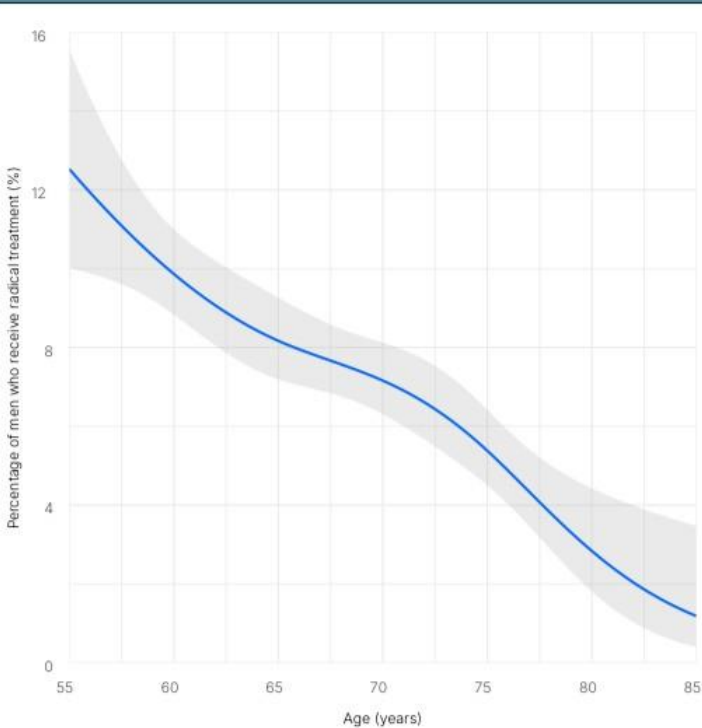
**Figure 7.** Annual number of new diagnoses per 1000 male population by stage, age, and deprivation in white men. Data for England from 1st January 2021 to 31st December 2023<sup>15</sup>.



- Clear evidence that stage at diagnosis is influenced by deprivation
- Higher deprivation leads to later stage disease at presentation
- Prostate cancer diagnosed less frequency in deprived populations
- I work in central London and clearly greater awareness needed in areas of deprivation across London

# Access to care and treatment allocation — am I treating the right people in the correct way

**Figure 10.** Percentage of men with low-risk cancer who received radical treatment, by age (in England, 1st January 2020 to 31st December 2021<sup>16</sup>).

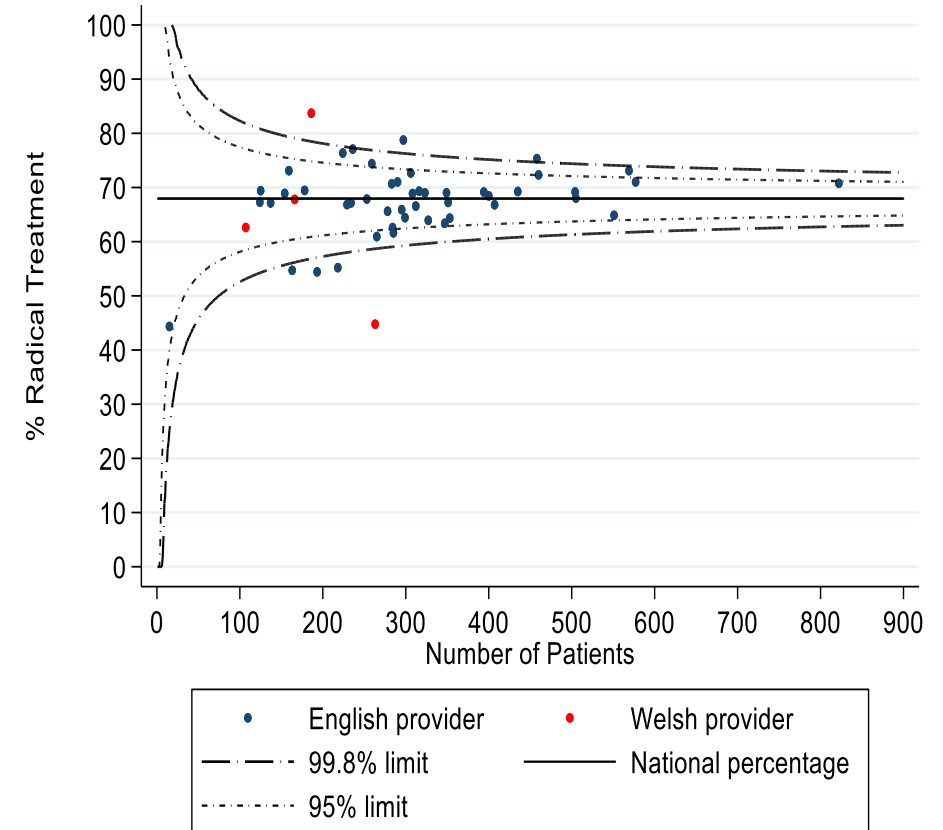
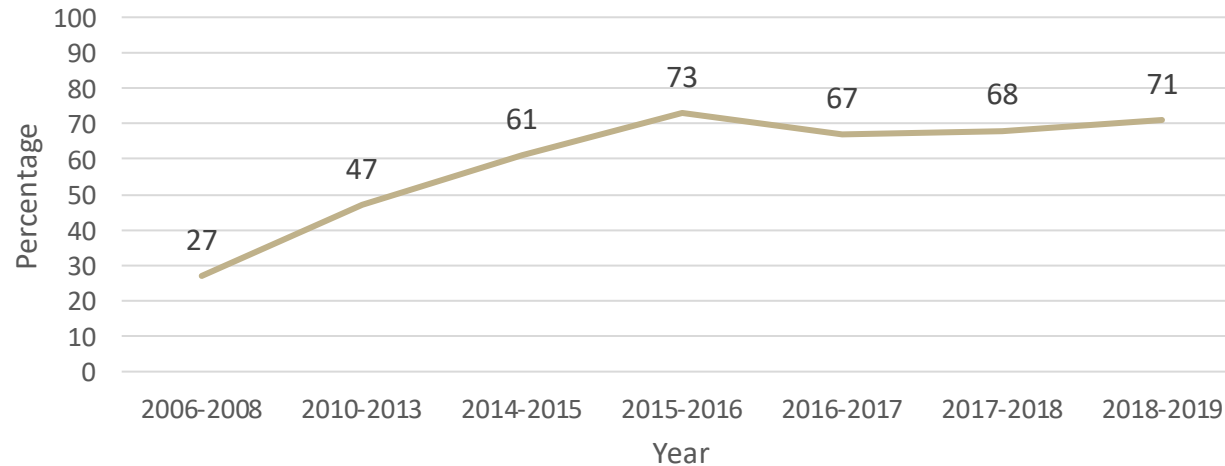


Grey areas represent 95% confidence intervals.

- Very few men with low-risk prostate cancer are receiving treatment for their disease
- Overall 5% of low-risk patients receive treatment
- Guy's & St Thomas' a few years ago was an "outlier" treating slightly too many men+
- +identified as relating to our brachytherapy programme

# Access to care and treatment allocation – am I treating the right people in the correct way

## Proportion of patients with locally advanced/high-risk disease undergoing radical treatment

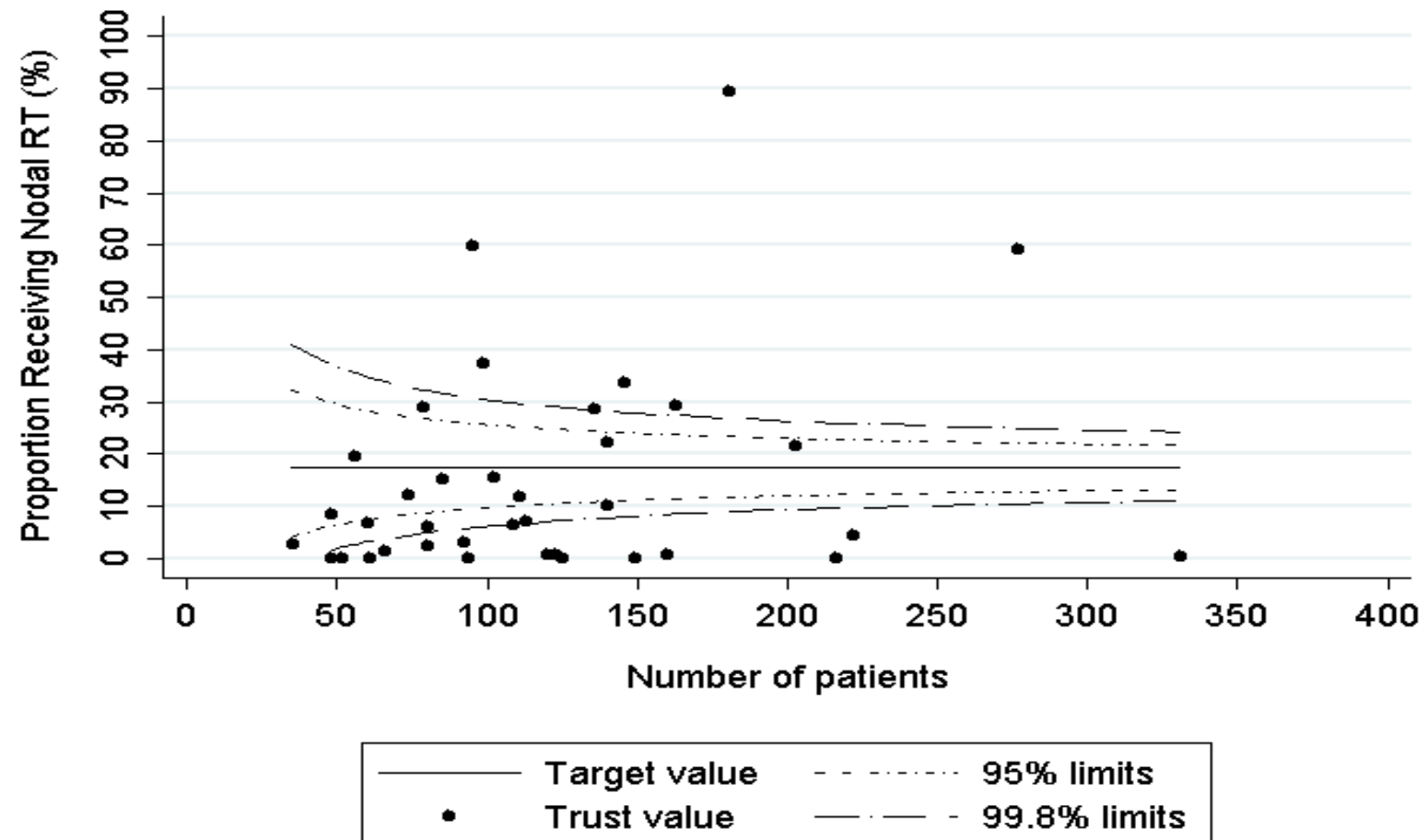


Under-treatment of high risk disease remains an issue

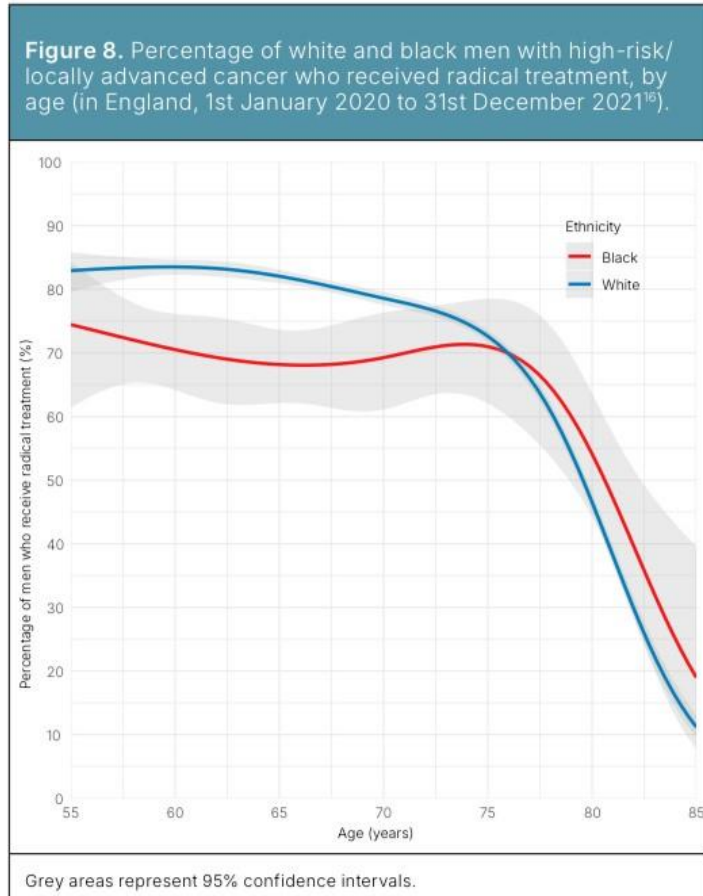
# Access to care and treatment allocation – am I treating the right people in the correct way

Nodal radiation at the time  
of prostate radiation for  
high risk patients – large  
variation

Arguably we should be  
treating nodes in all high  
risk men



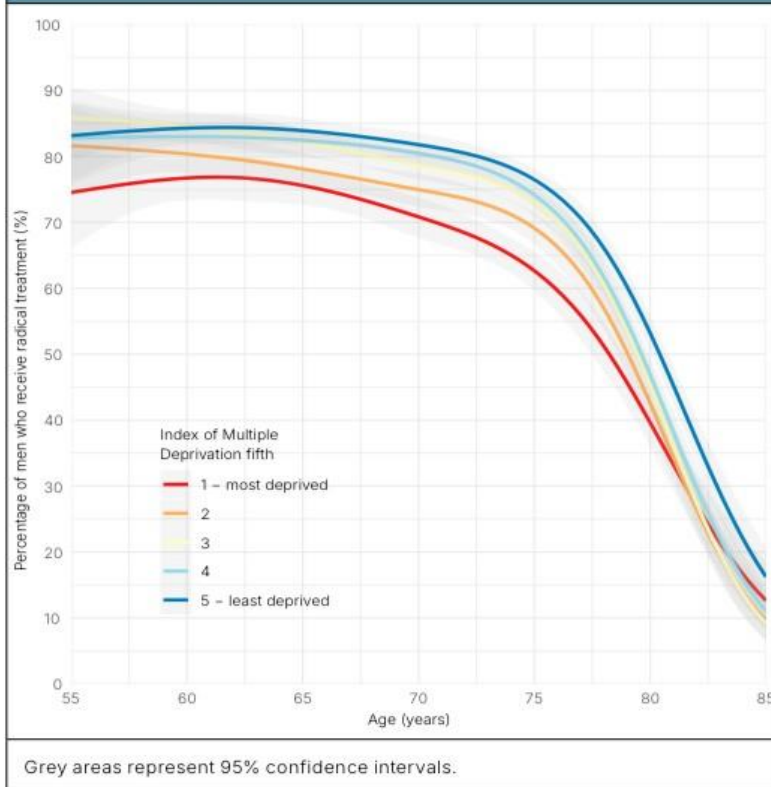
# Access to care and treatment allocation – am I treating the right people in the correct way



- Black men with high-risk prostate cancer less likely to receive radical therapy
- Southwark and Lambeth – Guy's & St Thomas' local population 24% black ethnicity
- To serve my community more I need to work on this disparity

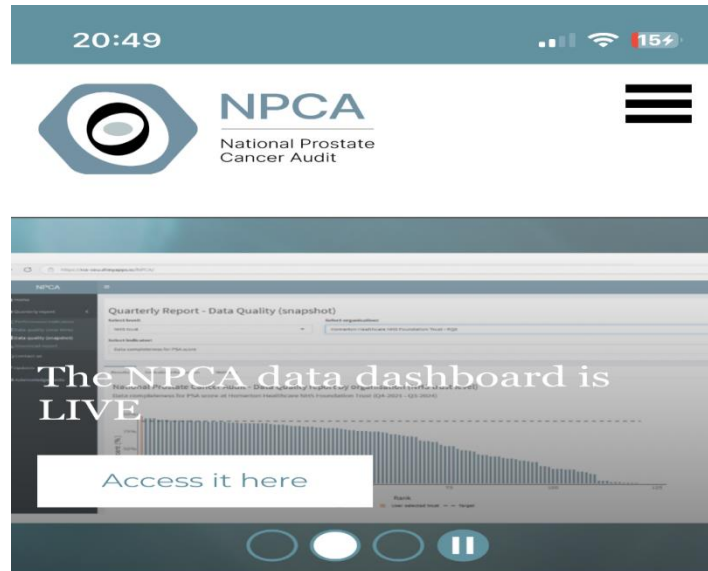
# Access to care and treatment allocation – am I treating the right people in the correct way

**Figure 9.** Percentage of men with high-risk/locally advanced cancer who received radical treatment, by Index of Multiple Deprivation fifth by age (in England, 1st January 2020 to 31st December 2021<sup>16</sup>).



- Index of deprivation also impacts on access to radical treatment
- Southwark – 1/3 of population live in areas of highest levels of deprivation in England
- To serve my community more I need to work on this disparity

# Data personal centres outcomes - “benchmarked” against peers- the website can tell you about your practice



Look up your own centre's outcome data

Compare your centres outcome data with all the other centres

You can look up other centres outcome data (transparent)

Patients can look up your/their centres outcomes



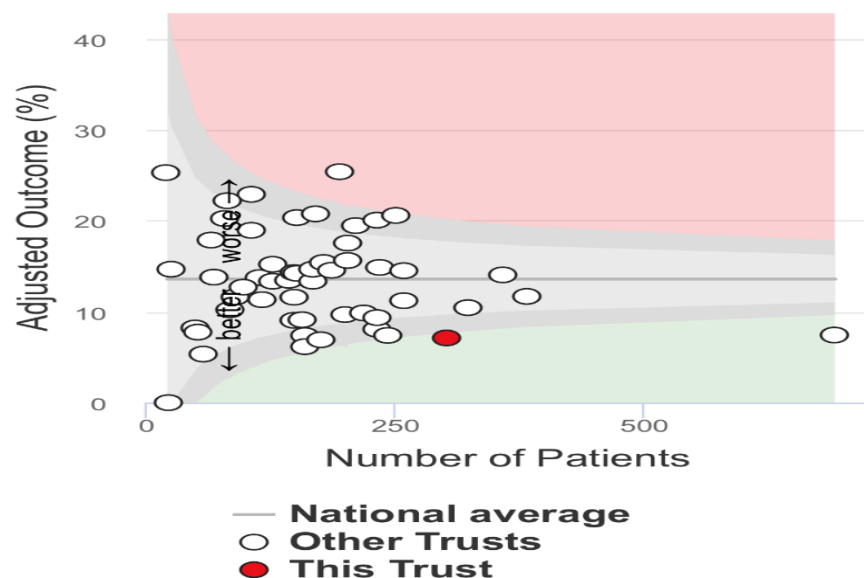
20:51



## Showing results for

Annual Report 2020 

Adjusted funnel plot for the proportion of patients readmitted as an emergency within 90 days of radical prostatectomy by surgical centre in England and Wales.



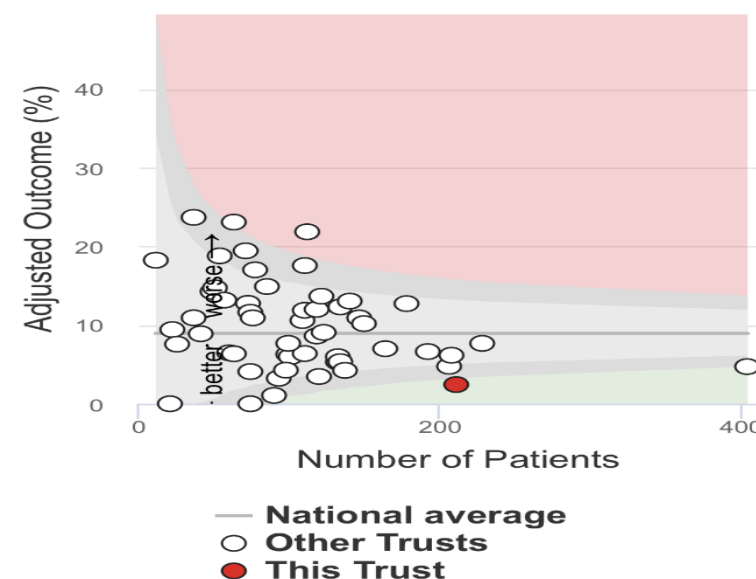
Note: You may need to pan horizontally to view the rest of this table

npca.org.uk

20:52



Adjusted funnel plot for the proportion of patients experiencing at least one genitourinary complication requiring a procedural/surgical intervention within 2 years of radical prostatectomy by surgical centre in England and Wales.



npca.org.uk



# Data personal centres outcomes -

“benchmarked” against peers- the website can tell you about your practice

- Its not just surgery outcomes

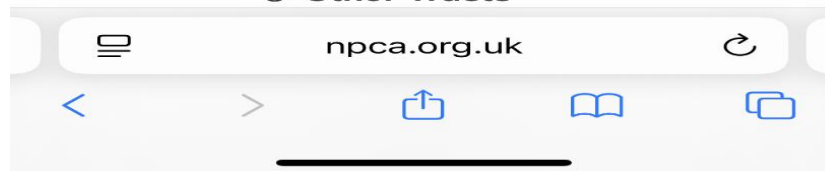
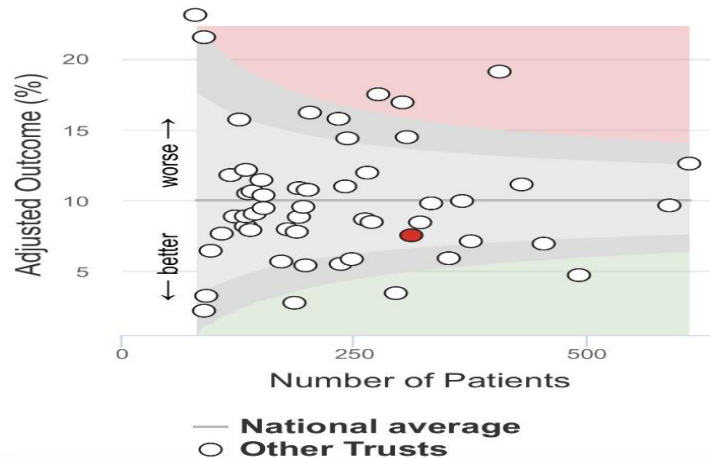


# Radiation therapy – GI toxicity

20:51



Adjusted funnel plot for the proportion of patients receiving a procedure of the large bowel and a diagnosis indicating radiation toxicity (gastrointestinal complication) within 2 years of radical radiotherapy by radiotherapy centre in England and Wales.

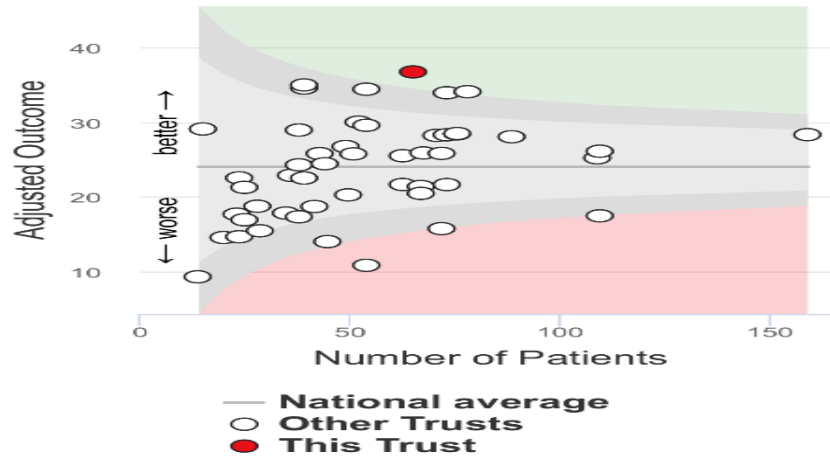


- The audit data highlighted higher GI toxicity at Guys
- Clinical oncologists “acted”
- Reduced the toxicity down from 17% to 7%
- No new technology required - Quality improvement programme
- Changes to contouring and dosimetry protocols and margins
- Requested support from the best performing centre – as identified in the audit

# Data personal centres outcomes - “benchmarked” against peers- data for surgical patients



Adjusted funnel plot for the mean sexual function score after radical prostatectomy by surgical centre in England and Wales.

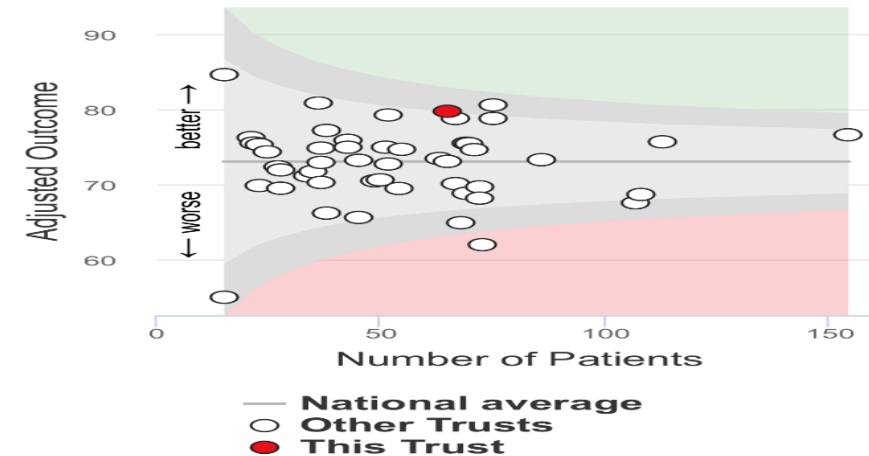


Note: You may need to pan horizontally to view the rest of this table

[npca.org.uk](http://npca.org.uk)



Adjusted funnel plot for the mean urinary incontinence score after radical prostatectomy by surgical centre in England and Wales.



Note: You may need to pan horizontally to view the rest of this table

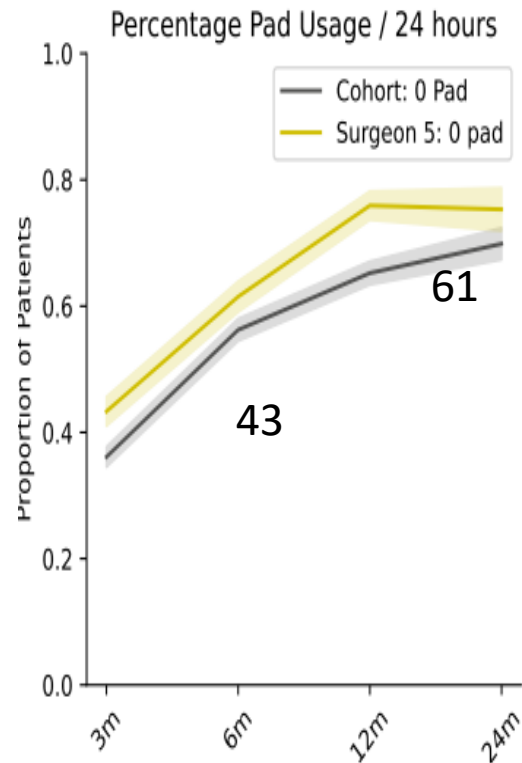
[npca.org.uk](http://npca.org.uk)

- Data is reported by centre not by surgeon
- NPCA may suggest a centre has excellent outcomes or equally poor outcomes but individual surgeons may have varying outcomes within the centre which is not highlighted by NPCA data
- All centres should review their own “in-house” data



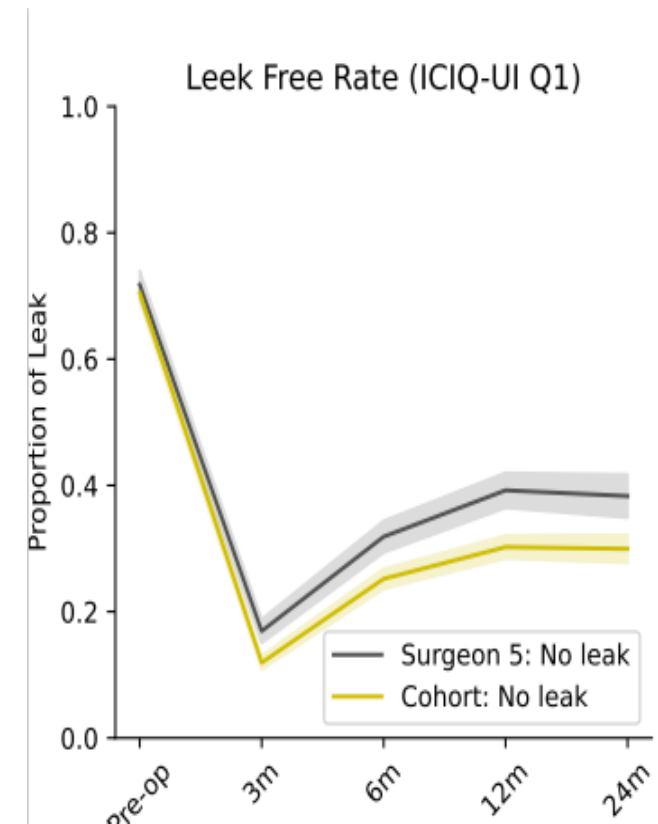
# Local data still required

Surgeon 5 - 0 pads compared to cohort & Leak-free rate compared to cohort



76

| Timepoint | Cohort (n) | S5 (n) |
|-----------|------------|--------|
| 3 months  | 914        | 464    |
| 6 months  | 795        | 405    |
| 12 months | 667        | 357    |
| 24 months | 335        | 162    |



# No Margin data in the audit\*

## Local data still required

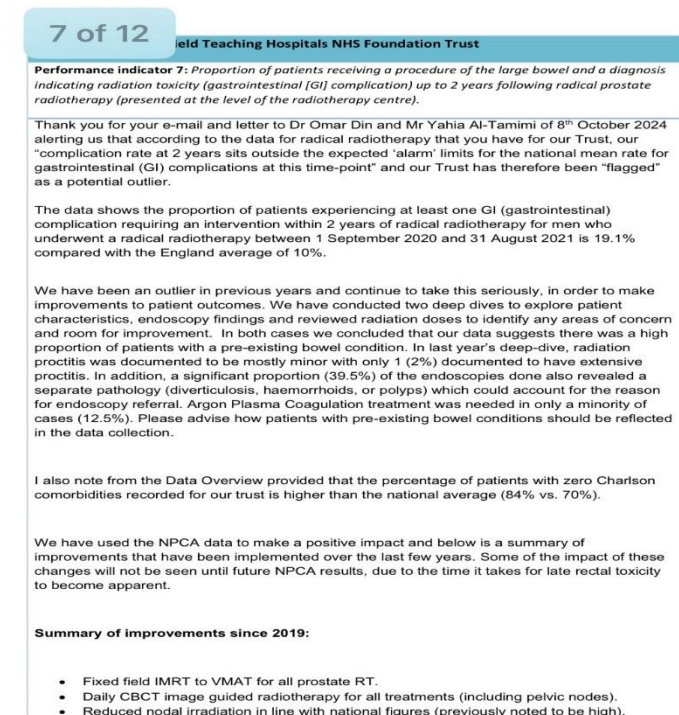
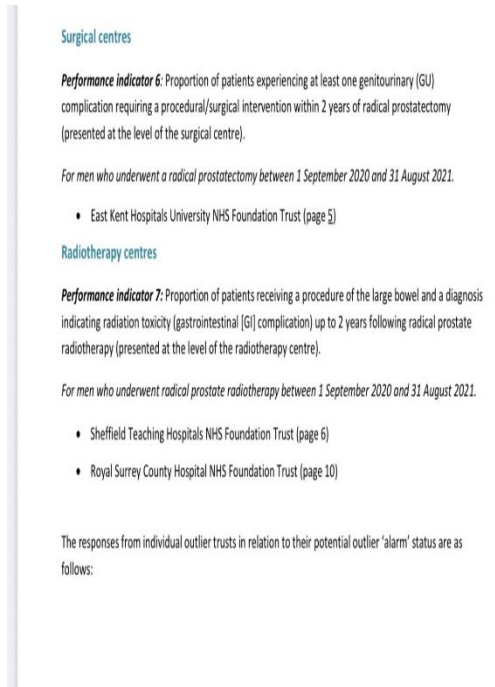
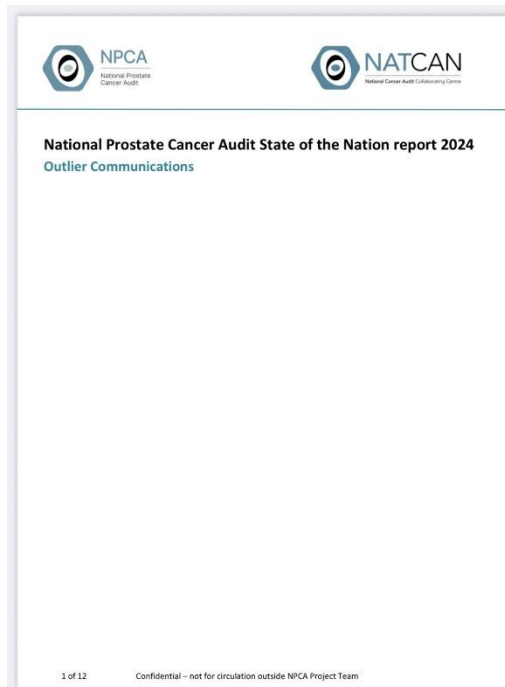
| Cohort<br>T Stage – positive |           |
|------------------------------|-----------|
| T2 (n = 915)                 | 121 (13%) |
| T3 (n = 364)                 | 101 (28%) |

| Surgeon 1<br>T Stage - positive |          | Surgeon 2<br>T Stage - positive |          |
|---------------------------------|----------|---------------------------------|----------|
| T2 (n = 139)                    | 15 (11%) | T2 (n = 161)                    | 15 (9%)  |
| T3 (n = 49)                     | 9 (18%)  | T3 (n = 67)                     | 20 (29%) |

| Surgeon 5<br>T Stage - positive |          | Surgeon 7<br>T Stage - positive |          |
|---------------------------------|----------|---------------------------------|----------|
| T2 (n = 290)                    | 31 (10%) | T2 (n = 112)                    | 25 (22%) |
| T3 (n = 118)                    | 25 (21%) | T3 (n = 43)                     | 11 (26%) |

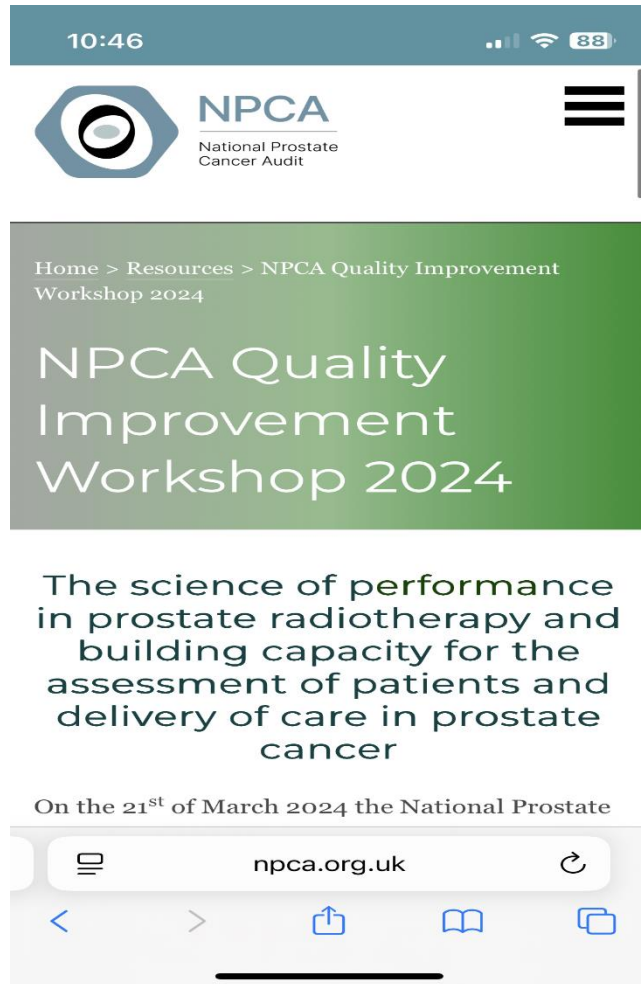
(\*due to difficulty accessing reliable margin data)

# Information outcomes - “benchmarked” against my peers - Outliers

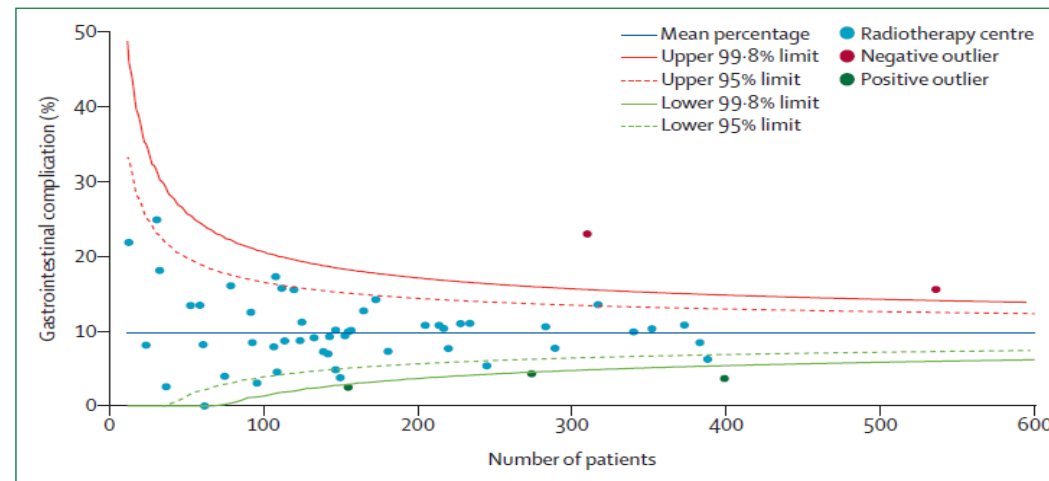


Outlier policy – published, outliers are identified and asked to respond. Most will do a “deep-dive” into their data to try and identify if they agree with NPCA and then respond with how they will try and improve outcomes

# Information outcomes - “benchmarked” against my peers - Outliers

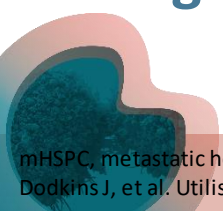


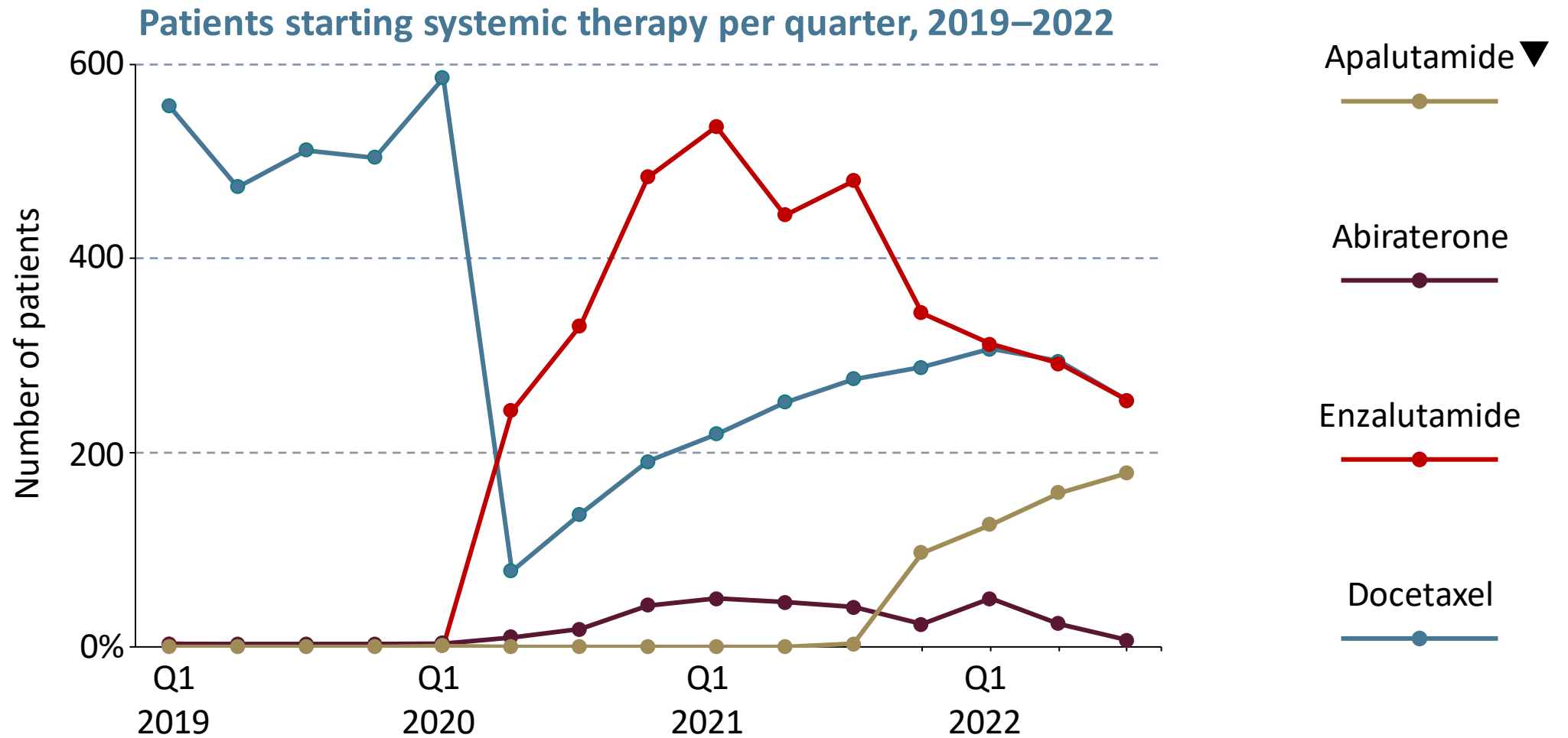
- One Centre identified as an outlier in GI toxicity after RT (NNFT)
- Quality assurance meeting set-up in London to learn from the best centre



## Utilisation of systemic therapy for mHSPC in England

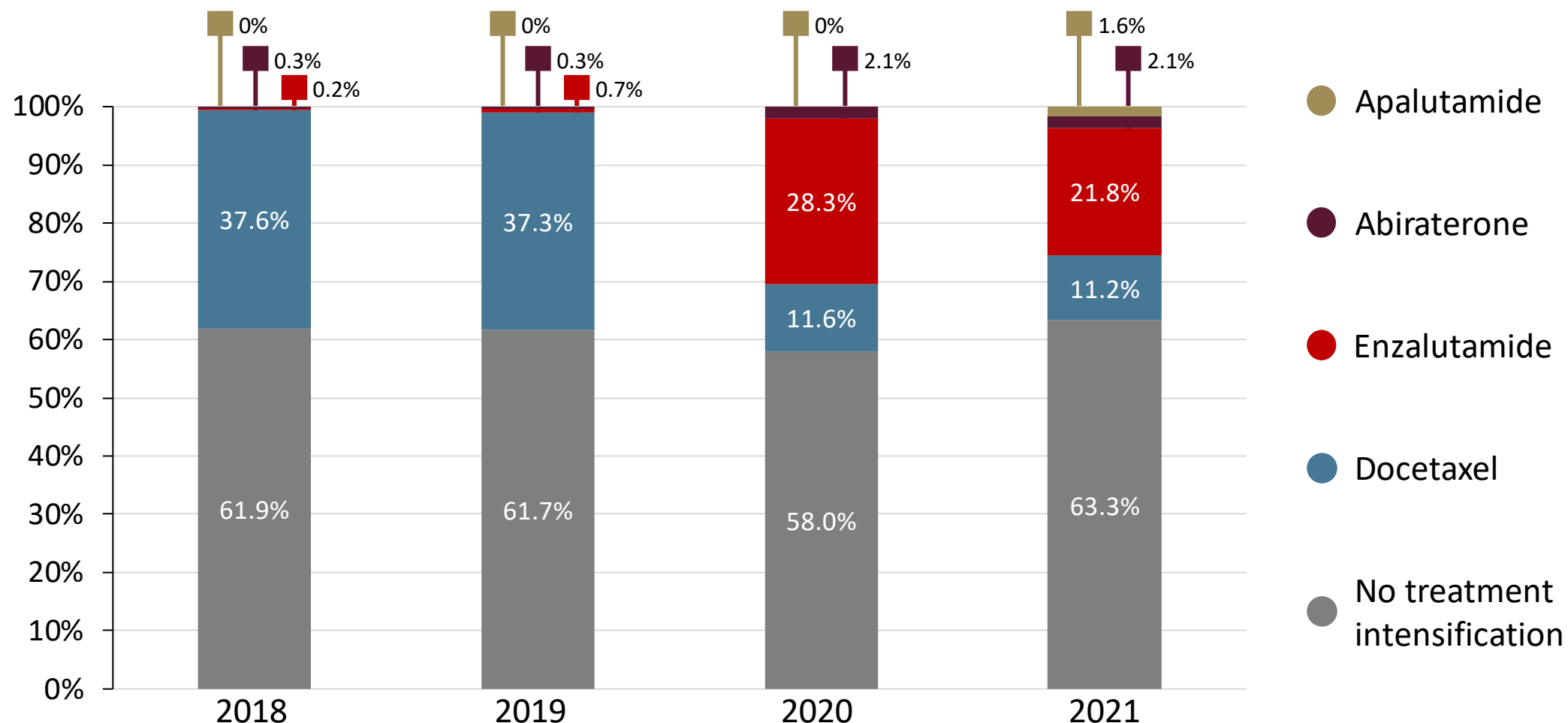
- Data from the NPCA identified all patients **newly diagnosed with mHSPC** in the English NHS between **2018 and 2021**
- Patients receiving docetaxel, enzalutamide, abiraterone or apalutamide within **6 months of diagnosis** were identified in the SACT Dataset
- Treatment patterns were studied in the overall population and also by **age, ethnicity, deprivation and comorbidity**





Q1, quarter one.  
Quarters are by calendar year (e.g., Q1 2020: Jan–March 2020).  
National Prostate Cancer Audit. NPCA Quarterly Report January 2020 to December 2022. Available from: <https://www.npca.org.uk/reports/npca-quarterly-report-january-2020-to-december-2022-published-february-2024>. Accessed February 2024.

## The percentage utilisation of systemic therapy by year (2018–2021)

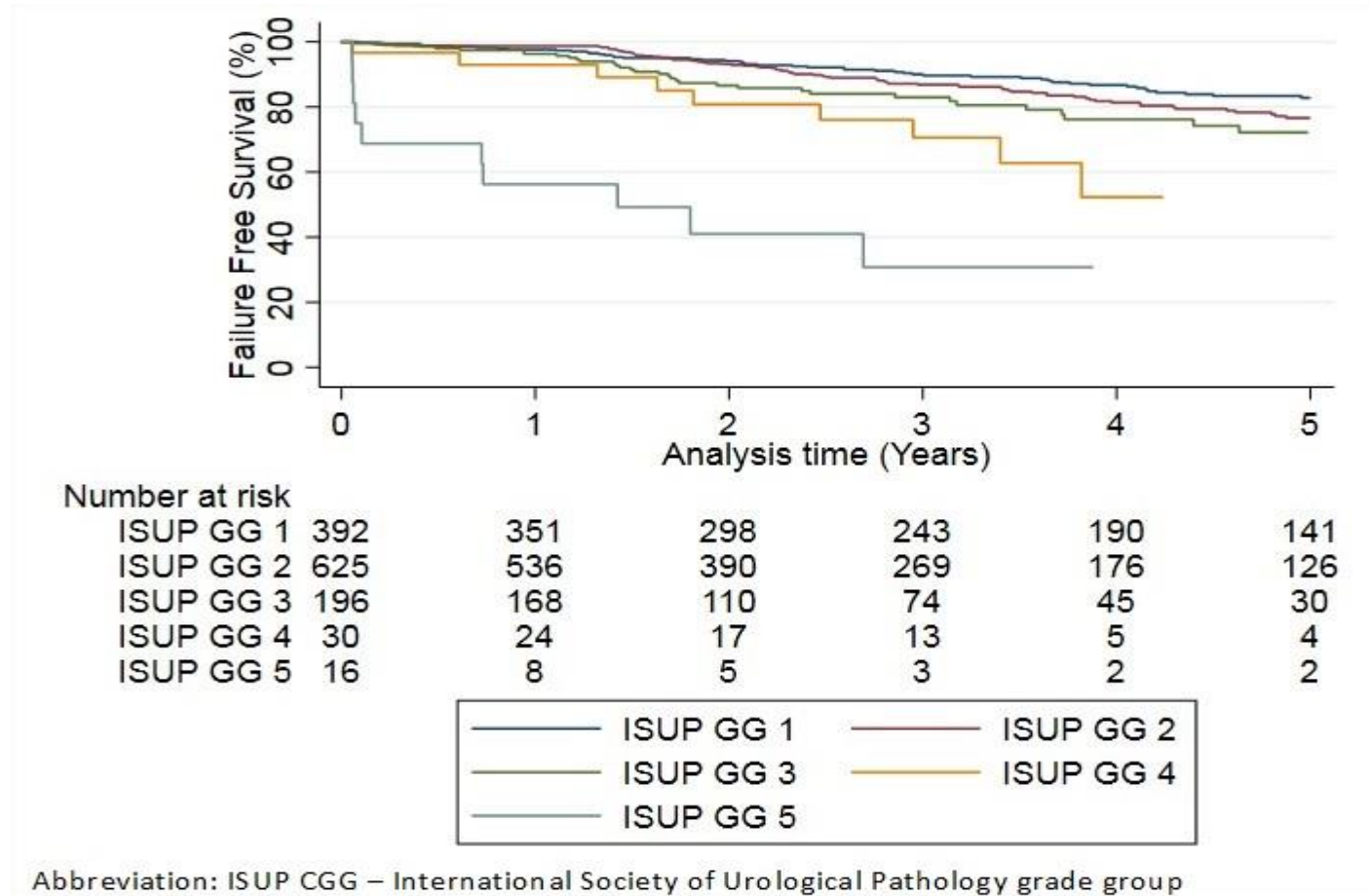


# Information about national utilisation of different prostate cancer therapies

- Patients were more likely to receive treatment intensification if they were:
  - **younger** or
  - lived in the **least deprived** areas (equity of access a persistent problem) or
  - had **fewer comorbidities**
- There was no evidence of variation in utilisation according to patient ethnicity
- Current analysis will look up to 2022



# Information about outcomes of different prostate cancer treatments



- Use of HIFU nationally for the treatment of organ-confined prostate cancer and use of salvage therapy after HIFU
- Demonstrates to clinicians that HIFU best avoided in higher risk category patients

# Information about outcomes of different prostate cancer treatments

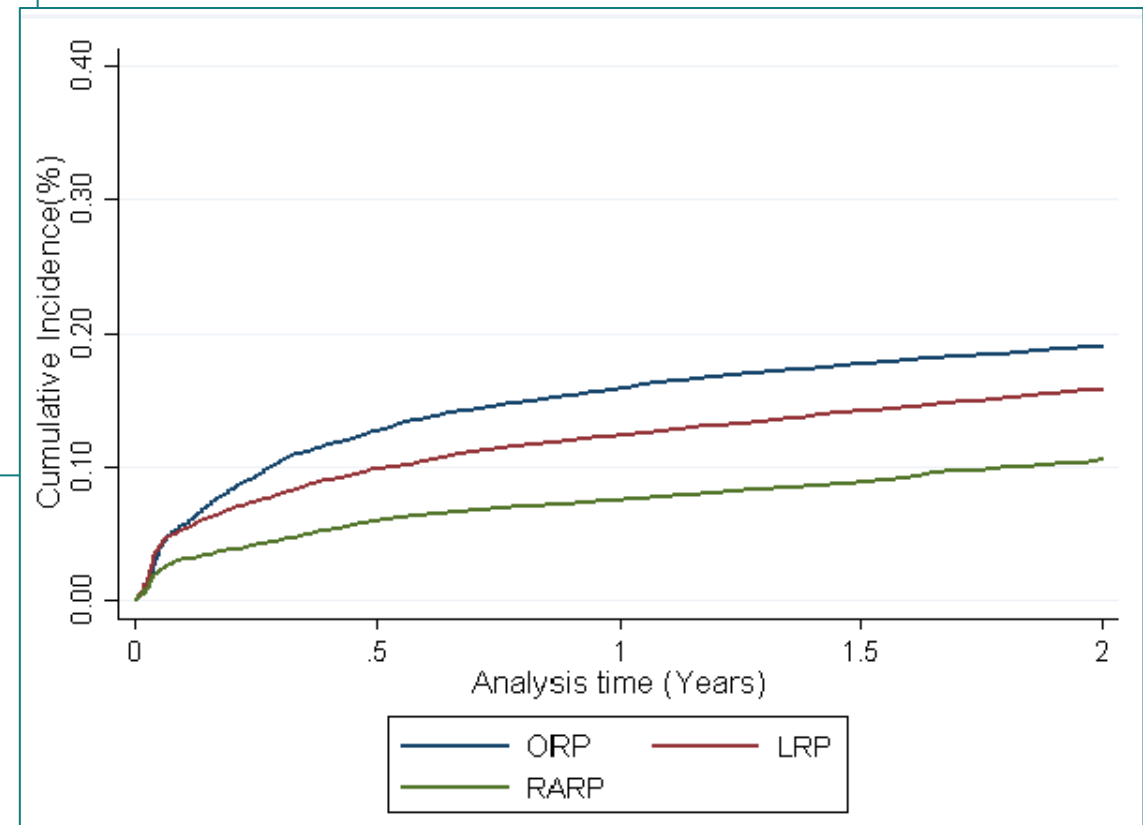
**BJUI**  
BJU International

## National cohort study comparing severe medium-term urinary complications after robot-assisted vs laparoscopic vs retropubic open radical prostatectomy

Arunan Sujenthiran\*, Julie Nossiter\*, Matthew Parry\*<sup>†</sup>, Susan C. Charman\*<sup>†</sup>, Ajay Aggarwal<sup>†</sup>, Heather Payne<sup>‡</sup>, Prokar Dasgupta<sup>§</sup>, Noel W. Clarke<sup>¶</sup>, Jan van der Meulen<sup>†</sup> and Paul Cathcart\*\*

\*Clinical Effectiveness Unit, Royal College of Surgeons of England, London, UK, <sup>†</sup>Department of Health Services Research and Policy, London School of Hygiene and Tropical Medicine, London, UK, <sup>‡</sup>Department of Oncology, University College London Hospitals, London, UK, <sup>§</sup>MRC Centre for Transplantation, King's College London, London, UK, <sup>¶</sup>Department of Urology, Christie and Salford Royal NHS Foundation Trusts, Manchester, UK, and \*\*Department of Urology, Guy's and St Thomas' NHS Foundation Trust, London, UK

Evidence for use of robotic approach in my clinical practice

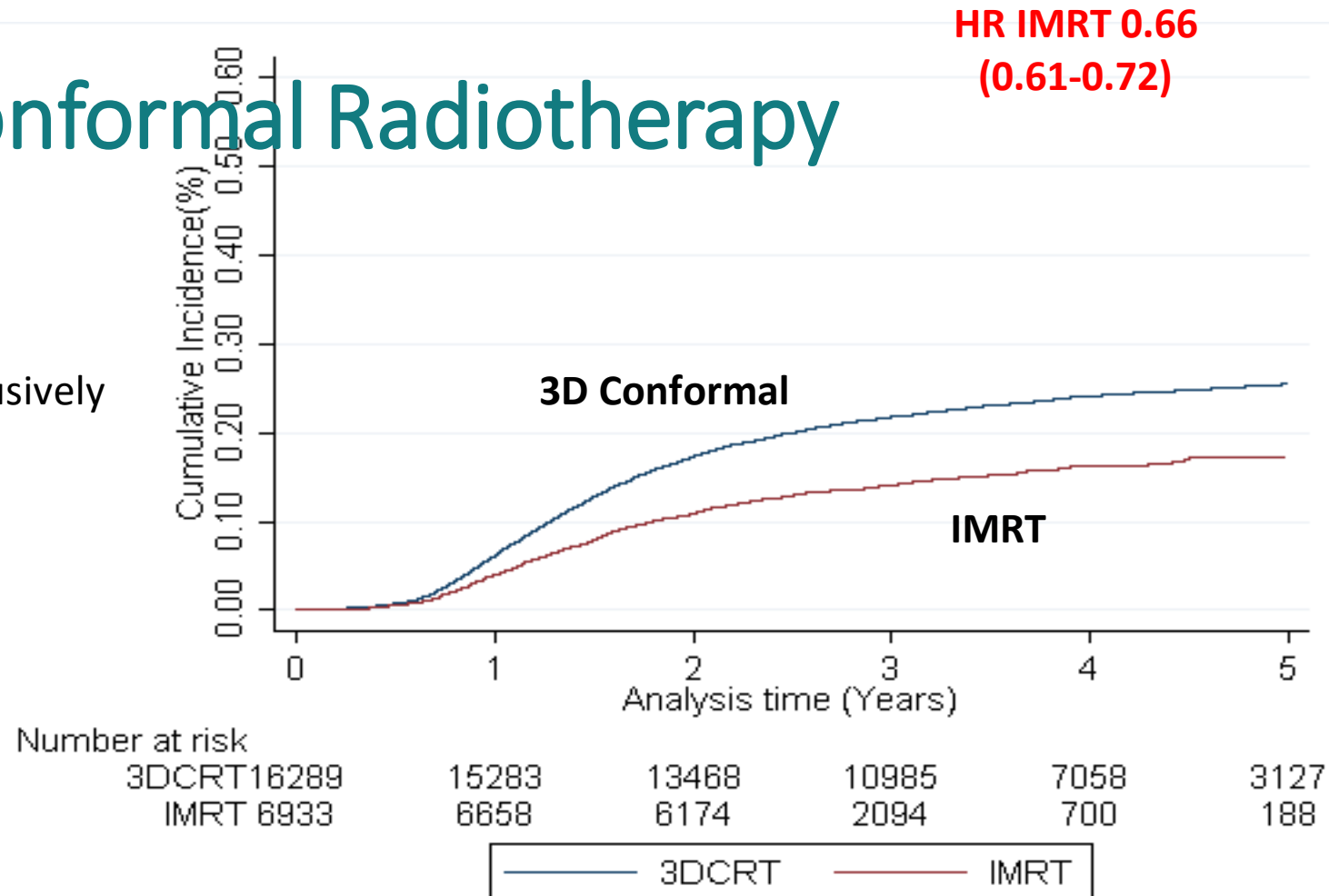


# Information about outcomes of different prostate cancer treatments

## IMRT vs 3D Conformal Radiotherapy

Bowel toxicity

Many centres are moving exclusively to IMRT



Clinical Investigation

## Toxicity of Pelvic Lymph Node Irradiation With Intensity Modulated Radiation Therapy for High-Risk and Locally Advanced Prostate Cancer: A National Population-Based Study Using Patient-Reported Outcomes

Matthew G. Parry, MSc,<sup>\*,†</sup> Julie Nossiter, PhD,<sup>†</sup> Thomas E. Cowling, PhD,<sup>\*</sup>  
Arunan Sujenthiran, MD,<sup>†</sup> Brendan Berry, MBBS,<sup>\*,†</sup> Paul Cathcart, MD,<sup>‡</sup>  
Noel W. Clarke, ChM,<sup>§</sup> Heather Payne, FRCP, FRCR,<sup>||</sup> Jan van der  
Meulen, PhD,<sup>\*</sup> and Ajay Aggarwal, PhD<sup>¶, #</sup>

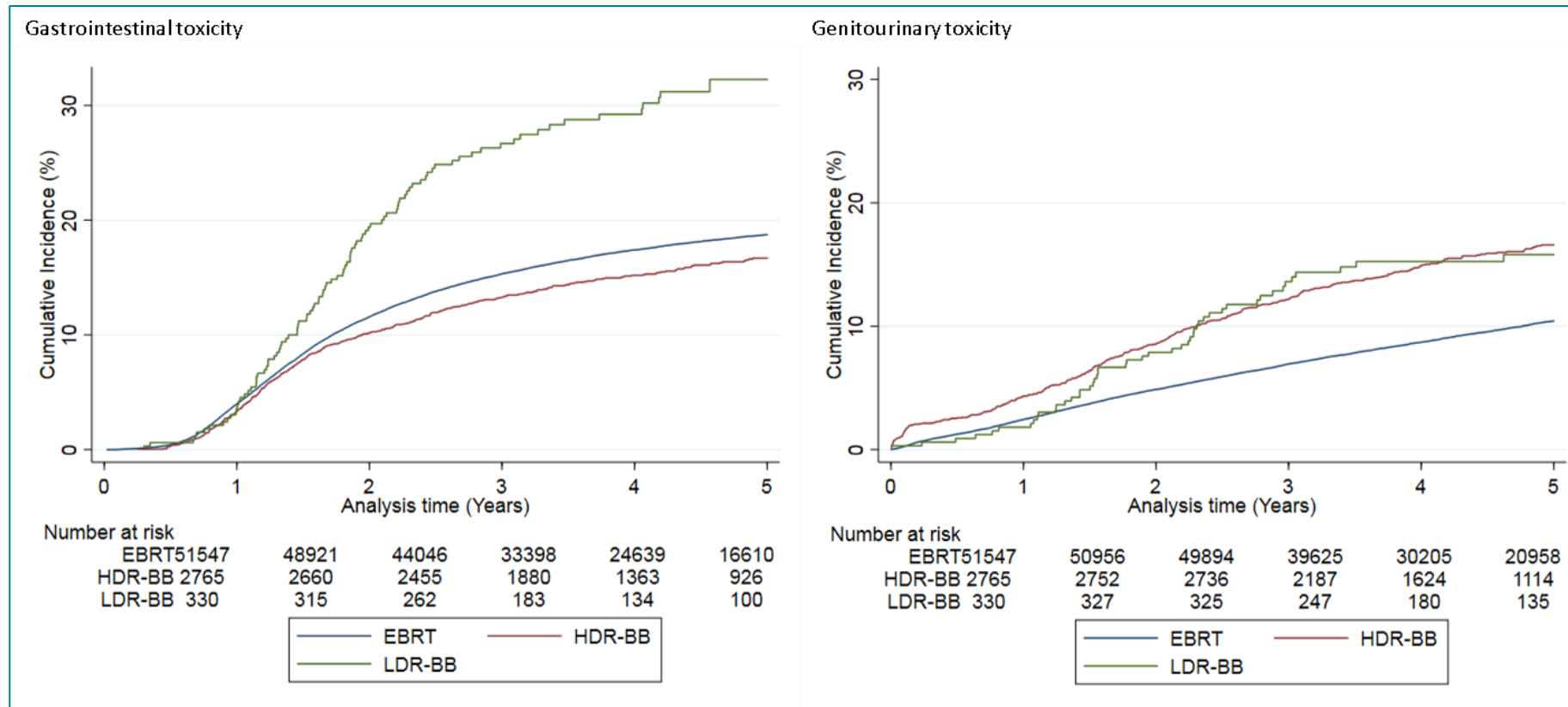
My centre has moved to  
increasingly perform node  
radiation at the time if prostate  
rt for high risk disease

original report

## Treatment-Related Toxicity Using Prostate-Only Versus Prostate and Pelvic Lymph Node Intensity-Modulated Radiation Therapy: A National Population-Based Study

Matthew G. Parry, MSc<sup>1,2</sup>; Arunan Sujenthiran, MD<sup>2</sup>; Thomas E. Cowling, PhD<sup>1</sup>; Julie Nossiter, PhD<sup>2</sup>; Paul Cathcart, MD<sup>3</sup>;  
Noel W. Clarke, ChM<sup>4</sup>; Heather Payne, FRCP, FRCR<sup>5</sup>; Jan van der Meulen, PhD<sup>1</sup>; Ajay Aggarwal, PhD<sup>3,6</sup>

# Information about outcomes of different prostate cancer treatments



**Brachytherapy Boost** — led to brachy-boost programme  
initially being stopped at Guy's, then re-established with use of a Gel-spacer

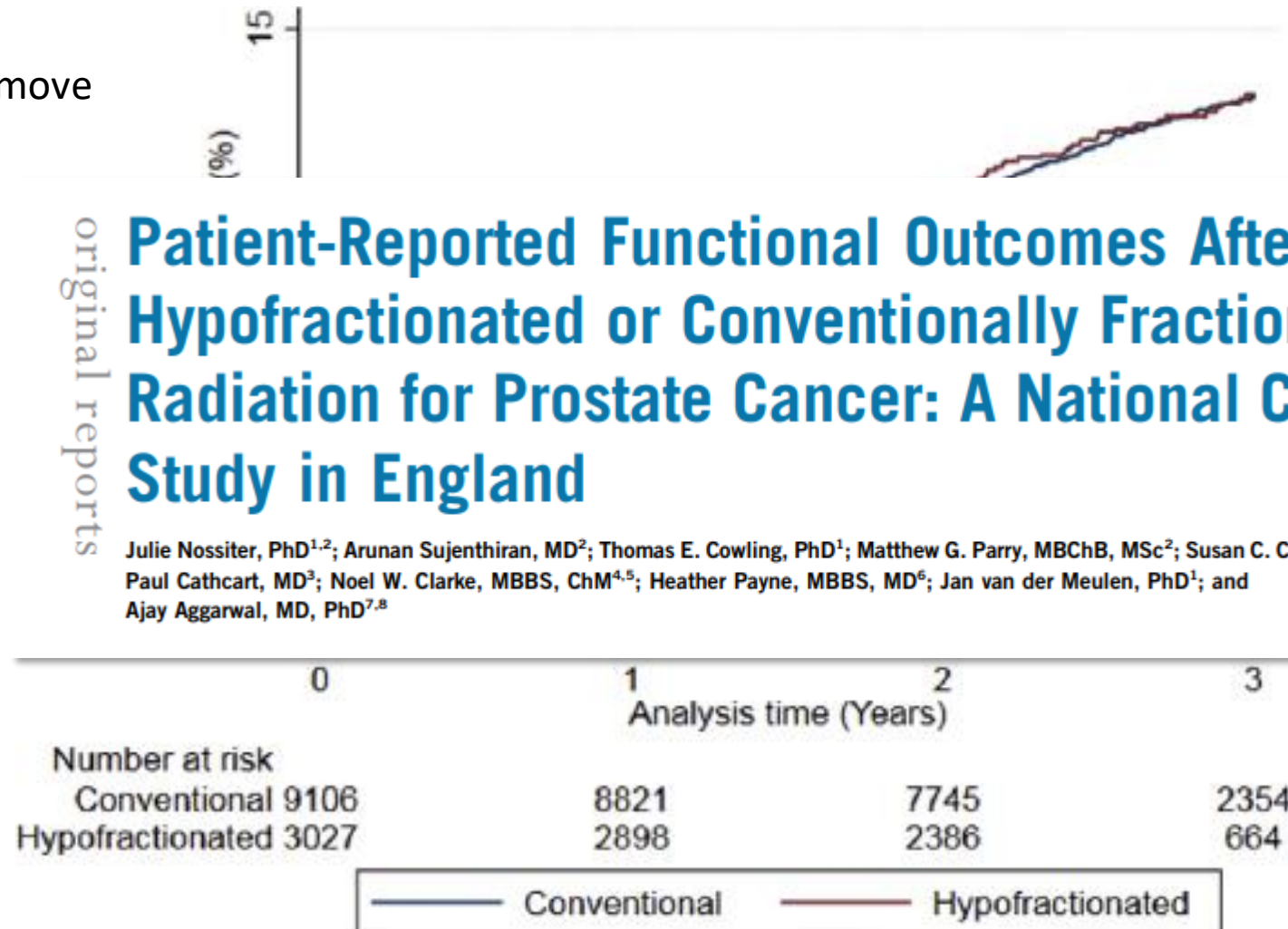
# Comparison of Treatment-Related Toxicity With Hypofractionated or Conventionally Fractionated Radiation Therapy for Prostate Cancer: A National Population-Based Study

A. Sujenthiran <sup>†‡\*</sup>, M. Parry <sup>†§\*</sup>, J. Nossiter <sup>†</sup>, B. Berry <sup>†</sup>, P.J. Cathcart <sup>‡</sup>, N.W. Clarke <sup>||</sup>, H. Payne <sup>¶</sup>, J. van der Meulen <sup>§</sup>, A. Aggarwal <sup>§\*\*</sup>

NPCA data supports move to hypofractionated treatment

## original reports Patient-Reported Functional Outcomes After Hypofractionated or Conventionally Fractionated Radiation for Prostate Cancer: A National Cohort Study in England

Julie Nossiter, PhD<sup>1,2</sup>; Arunan Sujenthiran, MD<sup>2</sup>; Thomas E. Cowling, PhD<sup>1</sup>; Matthew G. Parry, MBChB, MSc<sup>2</sup>; Susan C. Charman, MSc<sup>1</sup>; Paul Cathcart, MD<sup>3</sup>; Noel W. Clarke, MBBS, ChM<sup>4,5</sup>; Heather Payne, MBBS, MD<sup>6</sup>; Jan van der Meulen, PhD<sup>1</sup>; and Ajay Aggarwal, MD, PhD<sup>7,8</sup>



# Information about national utilisation of different prostate cancer therapies

BJU Int 2022; 130: 84–91 doi:10.1111/bju.15663

## Original Article

**BJUI**  
BJU International

## Urinary incontinence and use of incontinence surgery after radical prostatectomy: a national study using patient-reported outcomes

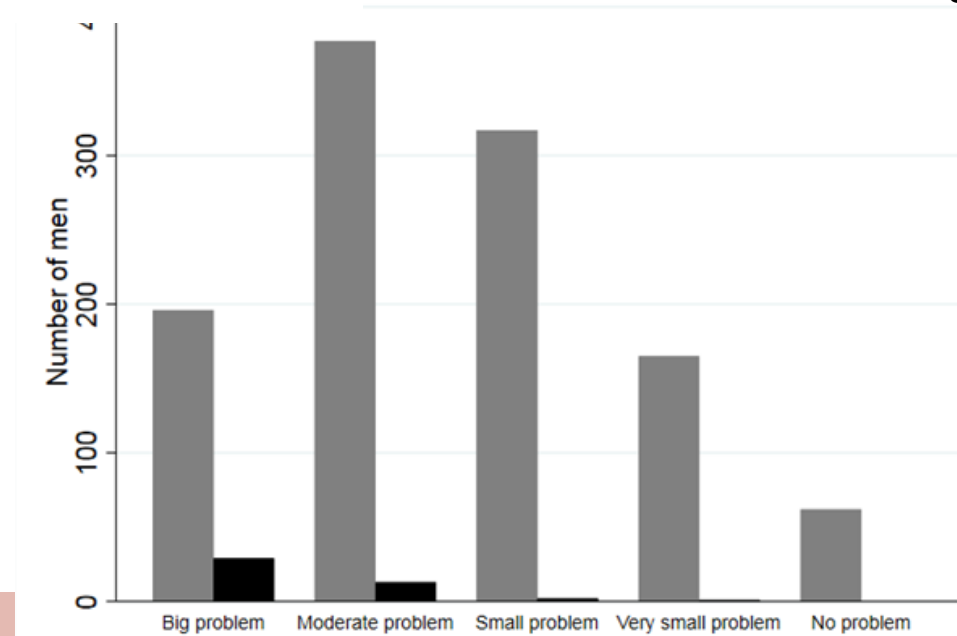
Matthew G. Parry<sup>1,2</sup> , Ted A. Skolarus<sup>3,4</sup> , Julie Nossiter<sup>1,2</sup> , Arunan Sujenthiran<sup>2,5</sup>, Melanie Morris<sup>1,2</sup>, Thomas E. Cowling<sup>1</sup>, Brendan Berry<sup>1,2</sup> , Ajay Aggarwal<sup>6,7</sup>, Heather Payne<sup>8</sup>, Paul Cathcart<sup>9</sup>, Noel W. Clarke<sup>10</sup> and Jan van der Meulen<sup>1</sup>

Men with low incontinence scores and low satisfaction undergo incontinence procedures

However, a large number of men with poor function do not and are therefore undertreated  
2.7% undergo an incontinence procedure by 3 years, but 12.2% have bothersome urinary incontinence

NPCA demonstrates unmet need

More men arguable should be referred and undergo incontinence surgery



# Thank you!

- Dr Julie Nossiter
- Dr Joanna Dodkins
- Prof. Jan van der Meulen
- NPCA Team
- NATCAN Executive



## NPCA Project Team



**Professor Noel Clarke**  
Clinical Lead (Urology)

Consultant Urologist, The Christie and  
Salford Royal NHS Foundation Trusts,  
Manchester



**Professor Heather Payne**  
Clinical Lead (Oncology)

Consultant Clinical Oncologist, UCLH NHS  
Foundation Trust, London



**Professor Jan van der Meulen**  
Methodology Lead and NPCA Chair

Professor of Clinical Epidemiology,  
LSHTM



**Dr Julie Nossiter**  
NPCA Audit Lead

CEU, RCS



**Dr Tom Cowling**  
NPCA Methodology Lead

Assistant Professor of Clinical  
Epidemiology, LSHTM



**Mr Matthew Parry**  
NPCA Clinical Fellow

CEU, RCS



**Mr Paul Cathcart**  
Clinical Audit Co-ordinator (Urology)

Consultant Urologist, Guy's and St Thomas'  
NHS Trust, London



**Dr Ajay Aggarwal**  
Clinical Audit Co-ordinator (Oncology)

Consultant Clinical Oncologist, Guy's and  
St Thomas' NHS Trust, London



**Mr Arun Sujenthiran**  
NPCA Clinical Fellow

CEU, RCS